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ABSTRACT

This review of research and literature examines issues related to the identification of potentially gifted students from groups most likely to be underrepresented in gifted education programs, including racial and ethnic minority groups, economically disadvantaged students, and those with limited English proficiency. Three major reasons for underrepresentation are identified and discussed: (1) test bias (the most frequent attribution for underrepresentation in programs); (2) selective referrals (usually because of teacher attitudes and knowledge about minority students and the type of school students are likely to attend); and (3) reliance on deficit-based paradigms (making recognition of the strengths of minority children less likely). Recommendations for modifying traditional assessment procedures include the use of multiple criteria and nontraditional measures and procedures and modification of selection criteria. Four aspects of assessment are discussed: the construct of giftedness, the referral process, the identification process, and the process by which decisions are made using assessment information for curriculum and instructional planning. (Contains approximately 140 references.) (DB)

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THE NATIONAL RESEARCH CENTER ON THE GIFTED AND TALENTED

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Athens, Georgia

A. Harry Passow
Teachers College, Columbia University
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ABSTRACT

This review examines research and literature that deal with assessment, with the focus on issues related to the identification of potentially gifted students from racial and ethnic minority groups, economically disadvantaged students, and those with limited English proficiency. This is the population given the highest priority in the Jacob K. Javits Gifted and Talented Students Education Act of 1988—the students deemed to be at the highest risk for going unrecognized and not being provided with appropriate and adequate educational services.

The review provides background information concerning the issues that affect the identification of gifted minority students, suggests implications for developing more effective identification procedures, and proposes directions for formulating a new approach to the resolution of the problems of identifying gifted minority students—a population that is seriously underrepresented in programs for the gifted. The literature reviewed ranges from research to speculative opinion, from theory to practice, all of which is deemed relevant and important to the discussion of assessment issues and implications for identifying gifted minority students.

Although there is consensus that gifted children can be found in every level of society and in every cultural and ethnic group, there is little question that minority and economically disadvantaged students are not found in programs in proportionate numbers. Their underrepresentation has been attributed to a variety of historical, philosophical, psychological, theoretical, procedural, social, and political factors. Each of these factors, singularly and in combination, has impacted the assessment of giftedness in minority student populations.

Three major reasons for underrepresentation are discussed:

(a) **Test Bias**. By far, underrepresentation of minority participation in programs for the gifted is most frequently attributed to biases in standardized testing—charges that tests are, for various reasons, prejudiced or unfair to ethnic minorities, the economically disadvantaged, and individuals whose first language is not English.

(b) **Selective Referrals**. Minority and economically disadvantaged students are not referred for programs for the identification of gifted to the same extent as majority students and are thus denied further consideration. Two factors have a significant influence on the underreferral process: teacher attitudes toward and knowledge about minority students and the type of school these students are likely to attend.

(c) **Reliance on deficit-based paradigms**. The focus on deficits makes recognition of the strengths of minority children difficult and, in addition, detracts from needed structural changes in schools and the manner in which they are organized and operated.

In addition to proposals for dealing with assessment-related problems by designing strategies for reducing or eliminating test bias, improving the referral process strategies, and stressing cultural strengths rather than cultural deficits, other recommendations for modifying traditional assessment procedures include: (a) the use of multiple criteria and nontraditional measures and procedures, and (b) modifying the selection criteria.

It is argued that inequities in assessment need to be considered from a broader perspective, one that takes into account the multiple factors that affect the identification of gifted minority students across social, cultural, and economic groups. It is the focus on correcting assessment inequities that appears to hold promise for designing effective procedures for identifying the talent potential of minority students. Examining problems of assessment inequities from this perspective provides a better basis for reconceptualizing assessment and related issues toward the end of creating a paradigm to better guide efforts in identifying gifted minority students. Toward this end, four aspects of assessment are discussed with implications for research: (a) the construct of giftedness, (b) the referral process, (c) the identification process, and (d) the process by which decisions are made using assessment information for curriculum and instructional planning.

In designing research to grapple with the many problems involved, it must be recognized that the term "minority" encompasses many diverse groups with many differences within them. Significant differences are missed when the label is used to designate the diverse cultural and socioeconomic populations that have not been included in the "majority" group that has traditionally dominated program efforts for the gifted in America. The promise of new paradigms that will include populations that have not been adequately identified and whose potential has not been sufficiently nurtured has important implications for individuals and society. Students' potential for high-level performance can be identified and programs designed to enhance their future productivity at advanced levels of excellence. New paradigms are needed to guide these efforts.

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EXECUTIVE SUMMARY

Introduction

Decisions regarding what talents will be recognized are critical in the process of identifying and nurturing giftedness. Societies differ in their valuing of exceptional abilities—which individuals are considered important, how they can be identified, and what should be done about developing them. The methods used to assess and evaluate talent potential directly or subtly reflect a society's beliefs about giftedness.

This review is focused on the issues and problems related to the identification of talent potential among minority students—children and youth from racial and ethnic minorities and those from economically disadvantaged families. In the identification process, assessment procedures figure prominently and pose a variety of issues. Although these issues have been of concern for many years, the reaffirmation of the nation's commitment to both equity and excellence makes a review of questions regarding identification of potential giftedness amongst all groups and the problems of assessment especially relevant and pertinent.

Research and literature are reviewed that deal with issues of assessment, the resolution of which determines who will be recognized and educated as a gifted student. The emphasis is on issues dealing with the identification of potentially gifted students from the population given the highest priority in the Jacob K. Javits Gifted and Talented Students Education Act of 1988—the students deemed to be at the highest risk for going unrecognized and not being provided with appropriate and adequate educational services. The literature reviewed ranges from research to speculative opinion, from theory to practice, all of which is relevant and important to the discussion.

Valid assessment procedures, strategies that would effectively identify talent potential amongst minorities, must deal with the perceived and actual problems of traditional methods of recognizing the gifted in minority populations. They must encourage and support the efforts of various minority groups to examine the concept of giftedness within their own cultural and environmental contexts, and provide the basis for recognizing talents, without apologies for differences in expression and performance where these exist. They must not compromise the goal of seeking a widely accepted notion of excellence. They must demonstrate validity and reliability in identifying talent potential among currently underrepresented groups. And, they must provide clear direction for addressing curriculum and programmatic needs.

Reasons for Underrepresentation

Although there is general agreement that gifted children can be found in every level of society and in every cultural and ethnic group, minority students are not found in gifted programs in numbers proportionate to their representation in the school age population. Their underrepresentation has been attributed to a variety of historical, philosophical, psychological, theoretical, procedural, social, and political factors. Each of these factors, singularly or in combination, has impacted the assessment of and subsequent identification of giftedness in minority student populations.

Test Bias

By far, underrepresentation of minority participation in programs for the gifted is most frequently attributed to biases in standardized tests based on test content and format, performance differences among groups, and/or the purposes for which test results are used. The central question is whether or not tests are biased against minority populations, thereby putting students at a disadvantage in educational decision making and the kind of education they would receive. It has been argued that standardized tests discriminate against students whose linguistic and perceptual orientation, cognitive style, learning and response styles, economic status, and cultural or social background differed from the dominant norm group—White, middle class, native English-speaking populations.

Literature dealing with various aspects of test bias raises questions as to what intelligence tests actually measure and what limitations may be ascribed to them; how valid instruments and practices developed in the Euro-American tradition are for students from different cultures and environmental contexts; whether or not tests contribute to institutionalized racism by shaping the attitudes of teachers; and to what extent bias is a reflection of broader discrimination in American society.

Although the debate concerning the authenticity and nature of test bias is ongoing, a number of actions are being taken to deal with such perceived bias—e.g., some districts have banned the use of standardized group intelligence tests, local norms have been established and applied, teacher judgments have been given greater emphasis, separate criteria have been used and cutoff scores adjusted for children from different groups, nontraditional instruments and affirmative action plans have been employed, and efforts have been made to develop nondiscriminatory assessment measures and procedures.

Selective Referrals

Referrals—nominations or screening activities designed to determine which children should be included in assessment procedures to determine eligibility for programs—generally constitute the first step in the identification. A failure to look to minority populations for referrals has been cited as one of the reasons these students are seriously underrepresented. Two factors are cited as contributing to this underreferral—teacher attitudes toward minority students and the type of schools minority students are likely to attend. Research indicates that students, teachers, and other school professionals continue to have low academic expectations for culturally and linguistically diverse students. With low expectations, teachers tend to overlook minority students when making referrals for gifted program assessment.

Studies suggest that teachers view minority groups as homogeneous units with all members sharing the same set of values and beliefs and having the same characteristics. The practice of considering all disadvantaged children to be equally and negatively affected

by their environments and language differences causes them to be overlooked. The inability of educators to recognize "gifted behaviors" exhibited by minority students contributes to a low rate of referral.

Under-referral is a problem for parents as well as teachers. The relatively few referrals by minority parents have been attributed to their limited information about gifted programs and their limited participation in organizations and advocacy groups concerned with giftedness.

Activities designed to deal with selective and limited referrals include activities aimed at increasing recognition of gifted attributes exhibited by minority students, and expanding the number and types of persons who participate in the nomination or referral process to include self- and peer-nominations.

Reliance on Deficit-Based Paradigms

Another reason advanced for the low referral rate of minority students has been a traditional focus on deficiencies rather than on strengths. In the 1950s and 1960s, with the emergence of school desegregation and civil rights activities together with the war on poverty, cultural deprivation became the prevalent paradigm for conducting research about and developing programs for minorities. The focus on deficits made recognition of the strengths of minority children difficult and, in addition, detracted from needed structural changes in schools and the manner in which they are organized and operated. The stress on deficits diverted attention away from minority students who had achieved or were achieving despite the characterization of cultural deficiencies.

In the 1970s, challenges to the deprivation paradigm resulted in the formulation and ascendance of a cultural difference theory, leading to describing and documenting cultural or ethnic differences in learning and teaching styles or arguing for an understanding of the dynamic interaction between students' culture and languages at home and the prevailing school culture and language.

Proposals for Dealing With Assessment-Related Problems

A number of proposals have been made to modify the traditional assessment paradigm to enhance the involvement of minorities in the identification process. Some of them appear to have been successful in remedying assessment problems in certain settings and contexts, but none has provided a comprehensive answer. Most proposals tend to deal with only one aspect of the problem of underrepresentation of minority gifted students.

Multiple Criteria and Nontraditional Measures

The use of multiple criteria and nontraditional measures—i.e., measures other than or in addition to IQ tests—figures prominently in many of the proposals to improve the identification and consequent representation of gifted students from minority populations. Although proposals to utilize multiple criteria are usually made to enhance the opportunities for minority students to be considered for selection for gifted programs, they have implications for diagnosis and assessment of all students who may be penalized by limitations of traditional measures.

The prevalence of multiple criteria and nontraditional measures is not clear. A survey by Patton, Prilliman, and VanTassel-Baska (1990) of the nature and extent of

programs for disadvantaged gifted learners in the 50 states and territories found neither the extensive use of multiple criteria nor a focus on "gifted behaviors" of minority students. Over 90 percent of the states and territories use norm referenced tests to some extent, but only 40 percent reported "moderate" or "great" use of nontraditional approaches. For example, 38 percent of the states used no observational techniques at all. On the other hand, the Coleman and Gallagher (1992) found that while all 49 states that have policies employ some form of standardized IQ and achievement test, they utilize other criteria as well: 46 states include "outside school activities, work samples, or products; 43 include measures of creativity; and many states permit input from teachers, parents, students, and other sources to assist with decision making" (p. ii).

Other nontraditional procedures proposed include expert judgment, sociometry, observations, autobiographies, and self-reports as alternatives to traditional procedures. These alternatives are criticized as contributing to lower or watered down program standards. Sometimes, accusations of "reverse discrimination" are voiced by parents whose children score at lower levels and are denied program admission as well as by parents whose children score higher on traditional measures, but are not selected on the basis of alternative criteria.

Modifying Selection Criteria

There have been numerous proposals that selection criteria be modified for minority students by, for example, lowering cutoff points or creating quotas. These procedures are controversial because students identified by modified criteria are often perceived as not really exhibiting the same high levels of potential and being chosen on diminished standards. Even those minority students who do meet the unmodified standards are perceived as having met only the lowered criteria.

Proposals have been made to combine data from different measures but these have been criticized on the ground that such syntheses are neither valid nor statistically sound. It is argued that because tests and scales often differ in purpose and in norming procedures, scores derived from them cannot be readily nor meaningfully combined or collapsed.

Restructuring the Problem: Implications for Research and Practice

The literature suggests two possible ways of reconsidering questions aimed at providing a new or different perspective on the identification of gifted minority students—in terms of *social inequity* or of *assessment inequity*.

When the problem is perceived primarily as one of social inequity, recommendations have tended to emphasize activities and strategies that aim to remediate or compensate for language and test-taking skill deficits or to provide quotas and score adjustments to redress the limits of low socioeconomic and culturally different backgrounds. Such recommendations have been criticized for their alleged unfairness and are vulnerable to charges of lowering standards or of reverse discrimination.

When the problem is perceived in terms of assessment inequity, recommendations focus on imbalances and inadequacies of the assessment processes and lead to the development of procedures using multiple criteria to better accommodate various groups in a diverse society, to generating better measures for recognizing talent potential when expressed in different forms, and to designing programs and curricula that use assessment

information to deal specifically with the developmental needs of diverse groups. Many recommendations also focus on compensating for deficits through the use of strategies that include score adjustments, alternative tests, quotas, and the creation of culture- or group-specific checklists and rating scales.

Inequities in assessment need to be considered from a broad perspective, one that takes into account the multiple factors that affect the identification of gifted minority students across social, cultural, and economic groups.

The Construct of Giftedness

Research regarding more effective methods for identifying gifted minority students must deal with issues related to how giftedness is defined and the attributes that are used to articulate this definition. The fundamental question posed is: What constitutes giftedness and is it manifested the same in all cultures and groups? In designing research on the identification of gifted potential in the various minority groups, the construct of giftedness must first be examined within the contexts of diverse cultures, economic levels, and language usages so that talent potential is not restricted to the traditional Euro-American context. The use of currently available measures and the construction of new, more appropriate measures for assessing the talent potential of minority students will depend on developing an understanding of giftedness that accommodates more than one standard for exceptional performance.

Recent years have witnessed the emergence of a number of different constructs or conceptions of giftedness that have implications for the identification process and program goals. Which of these conceptions hold most promise for incorporating the diverse behaviors and attributes of individuals from different cultural, economic, social, and language groups?

The Referral Process

The implication of needed research on the referral process is the challenge to educators to design and test ways (a) of changing teacher attitudes, skills, and understandings so that they comprehend the nature of talent potential and its diverse manifestations; (b) of helping teachers understand the different ways such talent potential may be exhibited by students from different cultural, economic, and language groups; and (c) of sharpening teachers' referral skills. In addition, research could provide insights into how parents and others in the community can enhance their capabilities in the referral process.

The Identification Process

Performance-based designs for research on identification can inform the development of more effective methods of identifying gifted minority students. Research must also explore the effective use of information from a variety of objective and subjective sources. However, it is not enough to propose multiple criteria and multiple sources of information without studying the nature of these sources. Are some sources of data more useful and more productive with minority students than others? Which gifted behaviors can be validly assessed or noted in diverse settings by various observers? Since aggregation of data from various sources is inappropriate, how can such data be combined meaningfully?

Curricular and Instructional Decisions

Research must address issues related to how assessment information is used effectively to design program and curricula activities to address instructional needs. Assessment involves designing activities to help match student needs with program characteristics. Further research is needed on developing effective programs and curricula based on the diagnosis and assessment of characteristics and traits of gifted minority students. The interactive relationship between identification and education—i.e., between assessment, curriculum, and instruction—is significant for all gifted programming and is especially so for minority students.

Conclusion

The variety of explanations advanced for the serious underrepresentation of minority students in programs for the gifted—including test bias, selective referrals, deficit-based paradigms, the absence of multiple criteria and multiple data sources, modified selection criteria—provide the basis for devising new procedures and strategies that lead to better assessment and identification procedures. Clearly, there is no "magic bullet," no single new assessment procedure that will enhance efforts to identify the talent potential of minority students. Various researchers and writers have offered a range of possible ways of increasing the effectiveness of procedures for recognizing the talent potential of minority students and further study is warranted.

The promise of new paradigms that will include populations that have not been adequately identified and whose potential has not been sufficiently nurtured has important implications for individuals and society. Students' potential for high level performance can be identified and programs can be designed to enhance their future productivity at advanced levels of excellence. New paradigms are needed to guide these efforts.

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Introduction

Decisions regarding what talents will be recognized are critical in the process of identifying and nurturing giftedness. Societies differ in their valuing of exceptional abilities—which individual differences are considered important, how they can be identified, and what should be done about developing them. The methods used to assess and evaluate talent potential directly or subtly reflect a society's beliefs about giftedness.

In a culture that is relatively monolithic in its values and beliefs, reaching consensus regarding who is gifted may be uncomplicated and the practical process of identifying potentially gifted youngsters quite straightforward. But, few societies are homogeneous. Most contain numerous subgroups with differing cultural norms, languages, ethnic backgrounds, levels of education and income, and other differences. These differences raise a number of issues with respect to what talents are valued, are to be sought and identified, are to be cultivated and developed, and are to be rewarded. Each of these issues poses problems for policy makers, educators, and society in general.

The focus of this review is on the issues and problems related to the identification of talent potential among minority students—children and youth from racial and ethnic minorities and those from economically disadvantaged families and communities. In the identification process, assessment procedures figure prominently and pose a variety of issues. Although these issues have been of concern for many years, the reaffirmation of the nation's commitment to excellence and equity makes a review of the questions regarding identification of potential giftedness amongst all groups and the problems of assessment especially relevant and pertinent.

The challenges of identifying gifted from what are now called "underrepresented populations" is hardly new. For decades, issues were raised concerning the adequacy of identification of gifted from lower socioeconomic classes. Prior to the 1940s, the focus was on poor and working class children with little or no attention paid to minority groups. Since World War II and especially since school desegregation, there has been a recognition that the traditional approaches to identifying gifted children have been inadequate and that the considerable talent potential among minority and economically disadvantaged students has gone undeveloped. Clearly, both society and individuals would benefit from more effective identification methods that would stem the loss of talent.

Valid assessment procedures, strategies that would effectively identify talent potential amongst minorities, must deal with the perceived and actual problems of traditional methods of recognizing the gifted in minority populations. They must encourage and support the efforts of various minority groups to examine the concept of giftedness

within their own cultural and environmental contexts and provide the basis for recognizing talents, without apologies for differences in expression and performance where these exist. They must not compromise the goal of seeking a widely accepted notion of excellence. They must demonstrate validity and reliability in identifying talent potential among currently underrepresented groups. And, they must provide clear direction for addressing curriculum and other programmatic needs—i.e., identification must lead to nurturing of potential, not be an end unto itself.

There are a number of concerns expressed regarding assessment procedures. Some focus on determining whether an assessment procedure is valid and reliable and whether there is evidence that a new procedure will be more effective than existing ones. Some center on a cultural goodness-of-fit. Others deal with the extent to which a procedure can be articulated in the form of rules and regulations to guide and facilitate implementation. There are questions of time and money resources needed. All of these concerns combine to make the task of designing effective procedures for identifying gifted minority students a formidable challenge.

This review examines research and literature that deal with these issues regarding assessment, the resolution of which determines who will be recognized and educated as a gifted student. The major emphasis is on issues dealing with the identification of potentially gifted students from racial and ethnic minority groups, economically disadvantaged students, and students with limited English proficiency. These are the populations given the highest priority in the Jacob K. Javits Gifted and Talented Students Education Act of 1988—the students deemed to be at the highest risk for going unrecognized and not being provided with appropriate and adequate educational services.

The aims of the review are: (a) to provide background information concerning the issues that affect identification of gifted minority students, (b) to provide insights into the implications for developing more effective identification procedures, and (c) to suggest directions for formulating a new approach to the resolution of the problems of identifying gifted minority students.

The literature reviewed ranges from research to speculative opinion, from theory to practice, all of which was deemed relevant and important to this discussion of assessment issues and implications for identifying gifted minority students. The issues are complex and so the literature from a variety of sources is examined. Ogawa and Malen (1991) have observed that reviews of multivocal literatures which "can generate insights regarding meanings people attach to the phenomenon of interest" (p. 271).

Definition of Terms

Three terms are defined to clarify the positions taken in this paper: assessment, potential, and equity. **Assessment** includes all those activities involved in the process of gathering information, using appropriate tests, instruments, and techniques for the purpose of specifying and verifying problems and making decisions about students (Hargrove & Poteet, 1984; Salvia & Ysseldyke, 1988). As used here, assessment covers more than tests—it refers to the entire process of nominating, referring, screening, classifying, diagnostic testing, program and instructional planning, and evaluating (Compton, 1984; Pendarvis, Howley, & Howley, 1990; Salvia & Ysseldyke, 1988).

Alvino (1983), Hagen (1980), and Tannenbaum (1983) all argue that **potential** is the more correct way to refer to a child with exceptional abilities as compared to other

children since giftedness is actually manifested by adults only. As Hagen put it, "In a school setting where we are trying to identify individuals who are likely to be outstanding achievers in an area, the only thing that we can identify is potential giftedness" (p. 3). Alvino asserts that using the term potential to refer to *all* children with exceptional abilities provides a strong basis for establishing appropriate programming and funding interventions needed to assist children in realizing their potential as adults. Tannenbaum suggests that the best strategy is to create a pool of "hopefuls" who, with proper nurturance, may make it to the top in the world of ideas thus increasing the chances for uncovering hidden talent. Consequently, the term **potential** is used here to mean the capacity or capability for unusual attainment in all children.

Equity as a goal is frequently discussed in the literature dealing with the identification of minority gifted students. Wiggins (1989) provides the perspective on equity that is used here, suggesting that the term be used in its original, philosophical meaning as incorporated into the British and American legal systems. In those systems, the concept of inequity advises that "blank laws and policies (or standardized tests) are inherently unable to encompass the inevitable idiosyncratic cases for which we ought always to make exceptions to the rule" (p. 708). Wiggins concludes that "In the context of testing, equity requires us to insure that human judgment is not overrun or made obsolete by an efficient, mechanical scoring system" (p. 708). He quotes Aristotle: "The equitable is a correction of the law where it is defective owing to its universality" (p. 708). **Equity** is defined here as providing fair, just and impartial access to appropriate educational experiences.

Reasons for Underrepresentation

Over the years, numerous writers have observed that gifted children can be found in every level of society and in every cultural and ethnic group (Clark, 1992; Davis & Rimm, 1989; Martinson, 1974; Renzulli, 1973; Sato, 1974; Torrance, 1970, 1977). A number have asserted that the incidence of high ability in racial and ethnic groups should be commensurate with their representation in the school age population (Patton, Prillaman, & VanTassel-Baska, 1990; Pendarvis, Howley, & Howley, 1990). Nonetheless, minority students are not found in gifted programs in proportionate numbers. Their underrepresentation has been attributed to a variety of historical, philosophical, psychological, theoretical, procedural, social, and political factors. Each of these factors, singularly and in combination, has impacted the assessment of giftedness in minority student populations.

Test Bias

By far, underrepresentation of minority participation in programs for the gifted is most frequently attributed to biases in standardized testing (Bernal, 1980; Hoover, Politzer, & Taylor, 1991; Jones, 1988; Pendarvis, Howley, & Howley, 1990; Richert, 1987, 1991; Richert, Alvino, & McDonnel, 1982; Samuda, Kong, Cummins, Pascual-Leone, & Lewis, 1989; Tonemah, 1987; Zappia, 1989).

As Tittle (1994) has observed: "To say a test is biased is to charge that it is prejudiced or unfair to groups or individuals characterized as different from the majority of test takers. These groups may include ethnic minorities, women or men, individuals whose first language is not English, and persons with handicapping conditions" (p. 6315). Charges of test bias may stem from the test's content and format, performance differences among groups, and the purposes for which the test results are used.

Issues of bias are raised with regard to test assessment of minority students and those from diverse backgrounds in general (Anastasi, 1988a; Duran, 1988; Hilliard, 1991a, 1991b; Jones, 1988; Kamphaus, 1993; Miller-Jones, 1989; Reynolds & Kaiser, 1990; Samuda, et al., 1989; Schiele, 1991; Williams & Mitchell, 1991). The central question is whether or not tests are biased against certain populations, thereby putting some students at a disadvantage in educational decision making about placement and the kind of education they would receive. Standardized tests have been defended, usually on the basis of empirical data, as useful instruments for evaluating individual differences, whether these were based on cultural, gender, language, environmental, or economic status. However, it has been argued that standardized tests discriminate against students whose linguistic and perceptual orientation, cognitive style, learning and response styles, economic status, and cultural or social background differed from the dominant norm group—White, middle class, native English-speaking populations.

Borland (1986) has summarized the limitations of IQ tests as follows: (a) since intelligence is "something richer, more complex, and more extensive than the mental prowess required to achieve a high IQ," such tests are not valid measures; (b) IQ tests produce different results for different racial and ethnic groups, "reflecting the pervasive bias found in our society"; and (c) IQ tests "have on occasion been both the method and the pretext for some appalling abuses of children in our educational system" (p. 137).

Reynolds and Kaiser (1990) define test bias as "systematic error in the estimation of some 'true' value for a group of individuals" and investigation bias as "a statistical inquiry that does not concern itself with culture loading, labeling effects, or test use/test fairness" (p. 624). They point out that six reasons have been suggested as the basis for standardized test bias: (a) inappropriate content, (b) inappropriate standardization samples, (c) examiner and language bias, (d) inequitable social consequences, (e) measurement of different constructs, and (f) differential predictive validity. With respect to widely used tests of mental ability, the major criticisms have to do with content, construct, and predictive or criterion-related validity.

However, on the basis of their review of a large number of studies that employed a wide range of methodologies to examine test bias, Reynolds and Kaiser (1990) concluded that there was little or no evidence to substantiate any claim of bias in most well-constructed tests of intelligence. They reported that in well-prepared standardized tests content bias was found to be a very irregular occurrence. No common characteristics of items found to be biased against certain groups could be ascertained by expert judges (minority or nonminority). Further, there was no empirical support for claims of content bias in studies that contrasted the performance of a variety of racial groups on items and subscales of widely used intelligence tests.

From a review of studies of construct validity involving a variety of populations of minority and White children of different races and genders, investigations that used a large number of popular psychometric assessment instruments and a multiplicity of methodologies, Reynolds and Kaiser (1990) concluded: "No consistent evidence of bias in construct validity was found with any of the many tests investigated" (p. 638). Nor did Reynolds and Kaiser find any support for claims of bias in predictive validity studies. Any evidence of bias occurred infrequently, with little or no apparently observable patterns, except when instruments of poor reliability and high specificity of test content were examined. When bias in predictive validity did occur, it most often favored low socioeconomic status, disadvantaged ethnic minority children, or other low-scoring groups.

In general agreement with Reynolds and Kaiser's (1990) conclusions, Anastasi (1988a, 1988b), Kamphaus (1993), and Thorndike and Lohman (1990) concur that statistical inquiries into bias claims reveal little or no substantiating evidence in most modern tests of intelligence. Thorndike and Lohman specifically noted that "Most attempts to find bias in the well-constructed instruments from the major test publishers have failed, and most of the tests offered as alternatives for use with minority groups have been shown to be either invalid for practical criteria or more biased than the tests they were designed to replace" (p. 104).

In contrast to these conclusions that most claims of test bias are unfounded, a number of writers continue to charge discrimination by traditional standardized tests used to assess minority students, usually basing their indictments on grounds other than empirical data (Hilliard, 1991a, 1991b; Samuda, et al., 1989; Williams & Mitchell, 1991). For example, Hilliard argues that testing instruments and practices developed in the Euro-American tradition are invalid measures for African Americans, a position shared by Boykins (1986), Schiele (1991), and Williams and Mitchell. Hilliard asserts that mean score differences on standardized tests are more a result of racial discriminations than a result of low intelligence.

Similar criticisms regarding the inappropriateness of tests developed in the Euro-American tradition have been made for other minority group children (Bernal, 1980; Laosa, 1973; Mercer, 1981; Mercer & Lewis, 1978; Mercer & Ysseldyke, 1977; Oakland, 1977, Samuda, 1975; Samuda, et al., 1989). It has been alleged that with some assessment practices, the goal is to label minority students as "limited learners" with the result that a greater proportion of them are placed in lower tracks where diminished outcomes are expected (Hilliard, 1991a).

Further, Hilliard (1991b) has questioned the scientific adequacy of aptitude and achievement tests: "Cultural bias only shows us that standardized mass-produced 'measurement' is impossible when variable cultural material is being aggregated in cross-cultural settings. The culture and measurement issue has become a matter of science first, then equity" (p. 140).

With regard to language differences and their probable contribution to test discrimination, Taylor and Lee (1991) counsel that "incongruencies between the communicative behavior or language of the test giver (or test constructor) and the test taker can result in test bias" (p. 67). They cite five areas as examples of culturally based communication and language bias in standardized tests: (a) situational bias, (b) linguistic bias, (c) communicative style bias, (d) cognitive style bias, and (e) interpretation bias. Situational bias occurs when there is a mismatch between the tester and the test taker caused by differences in the social rules of language interaction. This mismatch can lead to faulty assessments of cognitive, social, or language behavior because of misinterpretations, misunderstandings, or rejections of the test-takers' responses. Linguistic bias refers to errors that non-Standard English speakers may make in responding to test items written in Standard English, even when they have the required knowledge. Communicative style bias refers to the errors that can be made when test takers are required to respond in a manner that is socially and culturally different from their accustomed style of communicating. Cognitive style bias occurs when individuals from different cultural groups demonstrate their abilities in ways that are incompatible with the style required for successful performance on standardized tests. Finally, test interpretation bias occurs when a test-taker's response to a task is compared with that of a norming sample with an expectation of uniform development of phonological, morphological, and syntactical rules. To overcome these biases, Taylor and Lee suggest that standardized tests must be revised to reflect new

elicitation procedures, methods of evaluation, and variation in the types of behaviors chosen as representative of language competencies.

Cummins (1989) has attributed bias to institutionalized racism, which he describes as "ideologies and structure that are used to systematically legitimize unequal division of power and resources (both material and nonmaterial) between groups that are defined on the basis of race or ethnicity" (p. 95). As an example, he submits that the overrepresentation of Black and Hispanic students in classes for the educable mentally retarded was brought about by curriculum and teaching practices that reflect middle class, dominant group values and experiences. The subsequent selection of students for special education on the basis of IQ tests incorporates the same cultural and linguistic biases. That is, standardized achievement and IQ tests as well as teacher attitudes place the cause of minority students' educational difficulties in the students themselves, with little or no attention given to the children's school experiences. In Cummins' view, the structure for classrooms has been "legitimized by the assumption that IQ tests were valid indicators of minority students' academic abilities, and that their school failure was an inevitable consequence of mental inferiority due to one or more of the following factors: genetic inferiority, bilingualism, linguistic deficiency, or cultural deprivation" (p. 96).

There is one area of the debate in which there is some agreement—due to the controversy about test bias, psychometricians and psychologists have become more attentive to the need to develop instruments that fairly evaluate individuals from diverse cultural backgrounds. Reynolds and Kaiser (1990) noted that "societal scrutiny and ongoing sentiment about testing have without question served to force the psychometric community to refine its definition of bias further, to inspect practices in the construction of nonbiased measures, and to develop statistical procedures to detect bias when it is occurring" (p. 646).

As long as performance on standardized tests remains a dominant part of the assessment process as it currently does, discussions about test bias will continue (Gallagher, 1985; Richert, 1987, 1991; Richert, et al., 1982). Tannenbaum (1983) has suggested that measures of group differences reflect the consequences of prejudice in American society by revealing those individuals who are denied a fair chance to achieve excellence. Pendarvis, Howley, and Howley (1990) believe that even though cultural differences influence IQ and achievement test performance, they have a much less powerful influence than factors such as income, wealth, status, and expectations. Those who have argued that mental test biases do constitute a formidable barrier to the appropriate assessment of minorities, however, do not separate issues of culture from issues that affect the positions of different cultural groups in society, but rather they see them intertwined (Bernal, 1980; Hilliard, 1991a, 1991b; Samuda, et al., 1987; Williams & Mitchell, 1991).

As a result of charges of bias, some school districts have banned the use of standardized group intelligence tests altogether. Some psychologists and psychometricians have urged that intelligence tests not be abolished, but rather that they be interpreted differently to take into account sociocultural differences (Block & Dworkin, 1976). Borland (1986), for example, recommends that: (a) the identification process not rely on IQ tests alone, especially for making fine distinctions among individuals and (b) tests be used for the purposes of inclusion, not exclusion.

Recommendations aimed at addressing concerns with test bias include suggestions to establish local norms (Pendarvis, Howley, & Howley, 1990) and to renorm existing test data (Richert, 1991). There have also been proposals to give greater emphasis to teacher judgment in referrals and selection as a way of minimizing the effect of test bias (Maker, 1983a, 1983b). However, some critics view teacher attitudes as part of the problem rather

than of the solution. Recommendations have also included advice to: (a) establish different criteria for the admission of children from different groups or to adjust the cutoff on test scores (VanTassel-Baska, 1989); (b) use set-asides or quotas (Hersberger & Asher, 1980; LeRose, 1978; Mitchell, 1982; Pendarvis, et al., 1990; and (c) use nontraditional instruments and affirmative action plans (Patton, et al., 1990, Ryan, 1983).

There are recommendations aimed at the development of nondiscriminatory assessment measures and procedures (Baldwin & Wooster, 1977; Fitz-Gibbon, 1975; Mercer, 1981). Some test makers have responded to indictments of bias by attempting to produce so-called "culture free tests," but such measures have generated considerable controversy as well. Other test publishers have expanded the pools used to establish norms to include larger samples of various minority groups.

Culross (1989) has argued that the pitfalls of bias in establishing standards for selection and in choosing instruments to be used for assessment could be eliminated. Educators would have to focus more on achieving consensus about the construct of giftedness and the process for selecting measures that are valid, reliable, free from bias, and appropriate to the purposes for which they are used.

Selective Referrals

It has long been recognized that minority students are simply not referred for programs for the gifted to the same extent as majority students. Referrals generally constitute the first step in an identification process. They include any nomination or screening activity designed to determine which children should be included in assessment procedures to determine eligibility for gifted program services. A failure to look to minority populations for referrals has been cited as one of the reasons these students are underrepresented (Davis & Rimm, 1989). Two factors have a significant influence on this underreferral process: teacher attitude toward minority students and the type of school these students are likely to attend (High & Udall, 1983). Research indicates that students, teachers, and school professionals continue to have low academic expectations for culturally and linguistically diverse students (Dusek & Joseph, 1983; Haller, 1985; Jones, 1988; Levin, 1988; McCarty, Lynch, Wallace, & Benally, 1991; Snow, 1987). With low expectations, teachers tend to overlook minority students when making referrals for gifted program screening.

Bermudez and Rakow (1990) conducted a study to determine: (a) teachers' levels of awareness of cultural and linguistic behaviors of gifted Hispanic and limited English proficient (LEP) students that could mask their giftedness and result in inappropriate identification and (b) how differences in teachers' degree of awareness of cultural and linguistic variables affect student behaviors. They concluded that regular classroom teachers are less aware than bilingual teachers of: (a) inadequacies in the current identification procedures for Hispanic Gifted LEP students, (b) difficulties involved in communication when the language code is different from the primary one, and (c) the value of a solid foundation in the first language to facilitate comprehension of a second language.

Another factor in selective referrals and consequent underreferrals is the traditional perspective of minority groups as homogeneous units with all members sharing the same set of values and beliefs and having the same characteristics. For example, even when some minority students could readily meet selection requirements with little difficulty, the practice of considering all disadvantaged children to be equally and negatively affected by their environments and language differences causes them to be overlooked.

The inability of educators to recognize "gifted behaviors" exhibited by minority students has also contributed to their low rate of referrals (Baca & Chinn, 1982; Bernal, 1980; Dabney, 1988; De Leon, 1983; High & Udall, 1983; Hilliard, 1976, 1991a, 1991b; McCarty, et al., 1991; Pendarvis, et al., 1990; Wood & Achey, 1990). Baca and Chinn, for example, suggested that because teachers do not recognize the meaning of some unfamiliar behaviors of minority students, they are less likely to refer them for gifted program evaluation.

Kitano and Kirby (1986) note that low referrals of minority students are problems for parents as well as teachers. The relatively few referrals by minority parents have been attributed to their limited information about gifted programs and their limited participation in organizations and advocacy groups concerned with giftedness (Colangelo, 1985; Wood & Achey, 1990). However, on the basis of their study, Scott, Perou, Urbano, Hogan, and Gold (1992) offer a different viewpoint. Speculating that the underrepresentation of minority students in gifted programs is related to the percentage of minority parents that request the evaluation of their child for possible placement in the gifted and talented program, Scott, et al. studied the differences in the referral rates between minority parents (Black, Hispanic) and nonminority parents (White). They hypothesized that differences in referral rates would help to explain the underrepresentation of Black and Hispanic children in programs for the gifted and talented. Although they did indeed find differences in referral rates between these groups, they concluded that: (a) although both minority and majority parents were equally aware of gifted traits exhibited by their children and of attributes of gifted children, fewer minority parents refer their children for possible inclusion in gifted programs and (b) there were extensive commonalties in the characteristics reported by parents from all three groups and in the awareness these parents had of gifted characteristics exhibited by their children.

The low referral of minority students for assessment has an impact on their selection for gifted program participation since it limits the opportunities for further consideration. Effective assessment procedures must address issues associated with initial referrals.

Recommendations to deal with the problems concerned with the underreferral of minority students include the following: (a) design or use known strategies to enhance the recognition of gifted attributes exhibited by minority students; and (b) expand the numbers and types of persons who participate in the nomination or referral process to include self- and peer-nominations (Blackshear, 1979; Davis, 1978) and more minority parents and community members (Scott, et al, 1992; Tonemah, 1987; VanTassel-Baska, 1989; Wood & Achey, 1990).

Reliance on Deficit-Based Paradigms

Another reason for the low participation of minority students in gifted programs has been a traditional focus on deficiencies rather than on strengths. In particular, two theories have been prominent in shaping the focus on deficits in minority student populations: (a) the theory of cultural deprivation and (b) the theory of cultural difference.

In the 1950s and 1960s, with the emergence of school desegregation and civil rights activities together with the war on poverty, cultural deprivation became the prevalent paradigm for conducting research about minorities. The driving themes for research and practice were the identification of the alleged knowledge, skill, and attitude deficiencies of minority students, and the development of educational activities to eliminate or reduce them. This focus on deficits made recognition of the strengths of minority children difficult and, in addition, detracted from needed structural changes in schools and the manner in

which they are organized and operated (Banks, 1993). Thus, the stress on deficits has been criticized because it diverted attention away from minority students who had achieved or were achieving, despite the characterization of cultural deficiencies.

During the 1960s and 1970s, there were very few studies concerned with achieving minority students. One of these was Glaser and Ross's (1970) *A Study of Successful Persons from Seriously Disadvantaged Backgrounds*. A population of Mexican American and Black males between the ages of 21 and 30 who had lived in an urban ghetto section of some large city were divided into two groups—successful and unsuccessful. "Successful" subjects were either still in school or working more or less steadily during the two years prior to the study, were not on welfare, did not require intervention by any agency, and had not been in serious trouble with the law. "Unsuccessful" subjects were not in school, had been unemployed or underemployed during the preceding two years, and were likely in need of some intervention by an agency. The main differences between the two groups related to school, notions about self-esteem, and family relations. The successful group remembered school positively, associated their notions of self-esteem to thoughts about achievement, and had positive family relationships.

Among the 14 factors or trends that Glaser and Ross (1970) identified as prevalent in the lives of subjects who had risen successfully out of disadvantaged backgrounds were: a questioning orientation; awareness of alternative paths; supportive, inspiring relationships; and freedom from conditioning. None of these factors or trends are particularly amenable to evaluation using traditional standardized tests. However, they do provide clues to other methods of assessment that could be included in a battery to evaluate the strength of their presence in minority students being considered for gifted programs.

A 1967 study by Davidson and Greenberg (cited in Frasier, 1980) examined personality variables that were found to be associated with high and low achievers from lower socioeconomic backgrounds. Traits found to differentiate these two groups were similar to those that distinguish between middle class achievers and underachievers including ego strength, well-developed controls and self-confidence, greater maturity and seriousness of interest, the need to seek adult approval, and a willingness to postpone immediate pleasures. The traits found to distinguish between high and low achieving minority students are not readily measured by traditional standardized tests. Other methods of assessment would be needed to appraise them, such as projective instruments, role playing, and essays.

In the 1970s, challenges to the deprivation paradigm led to the formulation and ascendance of a cultural difference theory. The focus of research and writing shifted to describing and documenting cultural or ethnic differences in learning and teaching styles or arguing for an understanding of the dynamic interaction between students' culture and languages at home and the prevailing school culture and language (Boykin, 1986; Cummins, 1979, 1981, 1984; Gallimore, Boggs, & Jordan, 1974; Garcia, 1993; Hale-Benson, 1986; Kleinfeld, 1975; Hudelson, 1987; Labov, 1972, 1987; Ramirez & Castenada, 1974; Shade, 1978, 1981, 1982, 1991; Tharp & Gallimore, 1988; Wiesner, Gallimore, & Jordan, 1988; Wong-Fillmore & Valadez, 1985).

Some of the recommendations that have been made to improve evaluation and identification of minority students for gifted programs reflect the influence of the cultural deprivation or the cultural difference theory. For example, Riessman's (1962) book titled *The Culturally Deprived Child* described the positive characteristics and behaviors of what he called the "Slow Gifted Child," and Torrance (1970) provided a *Checklist of Creative Positives*, strengths that can be found in minority gifted students.

Other recommendations focus on cultural differences in learning styles. The concept of learning style differences has been the basis for developing separate checklists for African American (Gay, 1978; Hilliard, 1976), Mexican American (Bernal, 1974, 1978), and American Indian students (Tonemah & Brittan, 1985). Cognitive style differences were also used as a basis for distinguishing gifted minority students and minority students in general (Gallimore, et al. 1974; Hale-Benson, 1986; Ramirez & Castenada, 1974; Shade, 1978, 1981, 1982, 1991). There have been proposals for analyzing test scores differently to gain more specific information about minority children's strengths and weaknesses (Bruch, 1971; Meeker, 1978).

Several writers have observed that the use of a label, such as "minority" or "disadvantaged," masks a variety of within-group differences (Kitano & Kirby, 1986; Tonemah, 1987). Moreover, as Banks (1993) has noted, research on "people of color" (currently the preferred term of many minority groups), especially inquiries related to studies of learning styles and their cultural characteristics, fails to examine class and caste as important variables that affect behavior and performance.

Proposals for Dealing With Assessment-Related Problems

The recommendations discussed above in connection with suggested reasons for underrepresentation represent a proposal to modify the traditional assessment paradigm to identify more talent potential among minority students. While some of them appear to have been successful in remedying assessment problems in certain settings and contexts, none has provided a comprehensive answer. Most proposals tend to deal with only one aspect of the problem of underrepresentation of minority gifted students. An examination of some other proposals follows.

Multiple Criteria and Nontraditional Measures

The use of multiple criteria and nontraditional measures—i.e., measures other than or in addition to IQ tests—figures prominently in many of the proposals to improve the identification and consequent representation of gifted from minority populations. Proposals to employ multiple criteria are usually made to enhance the opportunities for minority students to be considered for gifted programs, but have clear implications with respect to the diagnosis and assessment of all students who may be penalized by limitations of traditional measures. However, although the use of multiple criteria is widely advocated, in practice actual employment tends to be somewhat limited.

For example, a survey by Patton, Prilliman, and VanTassel-Baska (1990) of the nature and extent of programs for disadvantaged gifted learners in the 50 states and territories found neither the extensive use of multiple criteria nor a focus on "gifted behaviors" of minority students. Rather, the data indicate that traditional approaches are still the primary means used in identification and assessment of disadvantaged gifted learners. Over ninety per cent (90.4%) of the states and territories used norm referenced tests to some extent but only 40.4% reported "moderate" or "great" use of nontraditional approaches. Thirty eight percent of the states used no observational techniques at all.

The Coleman and Gallagher (1992) study of state policies related to the identification of gifted students with particular attention to policies regarding "special populations of gifted students (culturally diverse, disabled, and economically disadvantaged)" reported somewhat different findings with respect to the use of multiple criteria. Their survey found that, although all 49 states that have policies related to gifted

education employ some form of standardized IQ and achievement test, "other criteria are often suggested as well" (p. ii). For example, 46 states include "outside school activities, work samples, or products, 43 include measures of creativity, and many states permit input from teachers, parents, students, and other sources to assist with decision making" (p. ii).

Proposals to deal with improving the assessment of talent potential among minority students include recommendations to use nonstandardized procedures such as expert judgment, sociometry, observations, and self-reports as alternatives to traditional procedures. However, Bernal (1980) sees these methods as harder "to sell" to school policy makers, administrators, and teachers because they are perceived as lacking the status of IQ tests. Hilliard (1991a, 1991b) argues that even though efforts to develop nondiscriminatory assessment measures might be politically acceptable, they are professionally meaningless unless they provide valid information about intelligent behavior for the groups with which they are used. Others have noted that substitutes for standardized tests and various alternative procedures tend to lack the necessary validity and reliability to justify their use (Maker, 1983a; Pendarvis, et al., 1990).

Maker (1983b) observes that problems are encountered when attempts are made to justify the placement of minority students in programs for the gifted on the basis of test scores lower than those of some majority students. These alternative instruments or procedures are often criticized as contributing to lower or watered-down program standards. Accusations of "reverse discrimination" may be voiced by parents whose children score at these lower levels and are denied program admission as well as by parents whose children score higher on traditional measures, but are not selected on the basis of alternative criteria.

Maker (1983b) also notes that it is difficult to justify the use of a different test to identify minority gifted students, even when such tests meet requirements of validity and reliability. Arguments have focused on the unfair advantage one student may have over another if a different test is used and on the need to maintain the same standard for all students. Perhaps the strongest criticism of alternative tests has been that minority students are tested on one set of skills but placed in programs that require a different set of skills (Richert, 1987, 1991; Richert, et al., 1982).

Modifying Selection Criteria

There have been numerous proposals that selection criteria be modified for minority students by, for example, lowering cutoff points or creating quotas. These have generally been quite controversial, mainly because students identified by modified criteria are often perceived as not really exhibiting the same high levels of potential and being chosen on diminished standards. Even students who do meet the unmodified standards are perceived as having met only the lowered criteria.

Criticizing the idea that schools need to have the same set of scores from the same test for all students, Treffinger (1982, 1991) has urged, instead, that identification focus more on the needs of students and less on efforts to categorize or label them. He concluded that assessment measures should be chosen for their diagnostic and instructive qualities. The appropriateness of the measures selected should be judged by their ability to provide the information required to recognize gifted students and to plan instructional experiences to meet their needs. Treffinger contends that any recommendation for new assessment approaches must address concerns such as these.

Bernal (1980) is among those who adamantly oppose any effort to "doctor" traditional measurement techniques for minority students by adding points, selecting

particular subtest batteries in the belief that they best reflect the abilities of minority children, or establishing quotas. He argues that such recommendations serve only to stigmatize minority students while still failing to recognize the gifted among them.

Criticisms have also been voiced against proposals to combine data from different measures on the ground that such syntheses are neither valid nor statistically sound. It is argued that because tests and scales often differ in purpose and in norming procedures, scores derived from them cannot be readily nor meaningfully combined or collapsed (Davis & Rimm, 1989; Feldhusen & Baska, 1989; Feldhusen, Baska, & Womble, 1981; Richert, et al., 1982).

Restructuring the Problem: Implications for Research

Wiggins (1989) has contended that: "When an educational problem persists despite the well-intentioned efforts of many people to solve it, it's a safe bet that the problem hasn't been properly framed" (p. 703). Given the array of unresolved assessment issues regarding the identification of talent potential among minority students discussed above, the probability is raised that the questions being asked need reframing.

The literature review suggests two possible ways of reconsidering questions aimed at providing a new or different perspective on the identification of gifted minority students—in terms of *social inequity* or of *assessment inequity*.

When the problem is perceived as primarily one of social inequity, recommendations to correct imbalances have tended to emphasize activities and strategies that aim to remediate or compensate for language and test-taking skill deficits or to provide quotas and score adjustments to redress the limits of low socioeconomic and culturally different backgrounds. Such recommendations have been criticized for their alleged unfairness and are vulnerable to charges of reverse discrimination and the lowering of standards (Bernal, 1980; Feldhusen & Baska, 1989; Maker, 1983a, 1983b; Pendarvis, et al., 1990).

Strategies proposed to address social inequities tend not to consider larger philosophical issues such as who, in a multigroup society, defines giftedness. Nor have practical issues relating to the development of standards and procedures that accommodate the concerns of multiple groups in a society or the complex and multiple facets of giftedness been addressed in a fair and equitable fashion.

When the problem is perceived as inequities in assessment, recommendations focus on imbalances and inadequacies of the assessment processes and lead to the development of procedures using multiple criteria to better accommodate various groups in a diverse society, to generating better measures for recognizing gifted potential when expressed in different forms, and to designing programs and curricula that use assessment information to specifically deal with the developmental needs of diverse groups. However, many of these recommendations also focus on compensating for deficits through the use of strategies that include score adjustments, alternative tests, quotas, and the creation of culture- or group-specific checklists, and rating scales. They seldom address the more difficult challenge of examining the concept of giftedness from a multi-group perspective. Thus, these recommendations have also been criticized for unfairness, reverse discrimination, lowering of standards, and the use of invalid measures (Bernal, 1980; Feldhusen & Baska, 1989; Maker, 1983a, 1983b; Pendarvis, et al., 1990).

Inequities in assessment need to be considered from a broader perspective, one that takes into account the multiple factors that affect the identification of gifted minority students across social, cultural, and economic groups. It is the focus on correcting assessment inequities that appears to hold promise for designing effective procedures for identifying the talent potential of minority students. Examining problems of assessment inequities from this perspective will provide a better basis for reconceptualizing assessment and related issues toward the end of creating a paradigm to better guide efforts in identifying gifted minority students.

Toward that end, the following aspects of assessment will be discussed with implications for research: (a) the construct of giftedness, (b) the referral process, (c) the identification process, and (d) the process by which decisions are made about using assessment information for instructional planning.

The Construct of Giftedness

Research regarding more effective methods for identifying gifted minority students must deal with issues related to how giftedness is defined and the attributes that are used to articulate this definition. One of the perennial criticisms of the identification processes that schools use to identify the talent potential of minority gifted children is that their ineffectiveness stems from their being based on constructs or conceptions of giftedness that reflect only the values and standards of the dominant group in American society. Sometimes these criticisms are not with the standards of giftedness themselves, but with how these behaviors may be exhibited by different groups and individuals. A fundamental question is thus posed: What constitutes giftedness and is it manifested the same in all cultures and groups?

Sax (1980) defines a construct as an hypothesized trait, ability, or characteristic that is abstracted from a variety of behaviors, but which is presumed to have educational or psychological meaning. Ary, Jacobs, and Razavieh (1979) assert that although a construct is not itself directly measurable, the behaviors believed to be aspects of the construct can be described and measured and the sum of these appraisals provide an indirect measure of the abstract construct.

Hagen (1980) has described giftedness as a psychological construct that is not directly observable. She asserts that accurate inferences about giftedness depend very much on the choice of characteristics or behaviors that are observed and appraised. Leung (1981) has proposed a concept of absolute aspects or basic underlying traits of giftedness and suggested that these may, in fact, be similar across cultural and economic groups. The manifestation of these absolute aspects, Leung submits, may be affected by specific characteristics of a setting when filtered through a cultural context.

Bernal (1980) has suggested that schools are not entirely to blame for problems associated with the underrepresentation of minority students in gifted programs since too often the construct of giftedness has not been clearly defined. He asserts that traditional notions of giftedness have only been operationalized in a few ways—very high scores on IQ, special aptitude, or achievement tests. The consequence has been a limited or restricted definition of giftedness (Renzulli, 1978; Richert, 1987). The complexities of the attributes that contribute to the giftedness construct are lost in this narrow conceptualization.

Bernal (1980) sees problems of referral of minority students for gifted program participation as stemming from an ill-defined construct of giftedness. Likewise, Culross (1989) notes that lack of consensus regarding what constitutes giftedness at the point of operationalization causes some of the pitfalls in screening and selecting students for gifted

programs. Bernal (1980) argues that "educational practices must seek to better understand minority gifted children and grant them their pluralism, and, in so doing, perhaps come closer to the core definition of giftedness" (p. 3). By focusing on a core definition, there is less reason to be bound to the cognitive preferences of the dominant ethnic group and greater reason to seek a valid and operationally useful identification and selection process for all gifted children.

Detterman (1988) has observed that: "A concept as complex as intelligence probably cannot be captured by a single definition without gross oversimplification" (p. 164) and this difficulty applies to giftedness as well. Yet, given the speculations about giftedness in children being a prediction, at best, of future productivity (Bernal, 1980; Tannenbaum, 1983; Treffinger, 1991); the growing emphasis on recognizing and developing gifted behaviors (Eby & Smutney, 1990; Feldhusen & Baska, 1989; Renzulli, 1978; Treffinger, 1982, 199l) and the fact that certain descriptive attributes of gifted students appear over and over in the literature (Baldwin, 1984, 1985; Bernal, 1978; Clark, 1992; Cutts & Moseley, 1957; Davis & Rimm, 1989; Eby & Smutney, 1990; Frasier, 1980, 1987; Kitano & Kirby, 1986; Renzulli, 1978; Renzulli, Smith, White, Callahan, & Hartman, 1976)—all suggest that agreeing on some basic characteristics of a core definition seems feasible and might well provide an important key to developing a more effective procedure for identifying giftedness in diverse cultural and economic groups.

A definition implies a construct and the definition adopted by a school system has much to do with deciding the nature and the parameters of the identification process used to determine gifted program eligibility (Alvino, 1983; Eby & Smutney, 1990; Pendarvis, et al., 1990; Renzulli, 1986; Tannenbaum, 1983). The selection of instruments and procedures to be used in identifying students as gifted should be guided by an explicit statement of a construct of giftedness that incorporates the range of traits, behaviors, or aptitudes that define gifted potential in a particular situation. However, in most situations there is a discrepancy between official definitions of the giftedness construct and the selection instruments used to represent salient features of this construct (Hoge, 1988).

Culross (1989) has pointed out that "there is little consensus on what constitutes giftedness, at least at the point at which the construct is operationalized....Criteria for determining whether or not a child qualified for a gifted program differ as a function of population characteristics, school district policies, and assessment procedures" (p. 77). When standardized tests have been used as the primary means for gifted program identification, it results in what Renzulli and Delcourt (1986) refer to as "hard-core labeling" (p. 2).

Adherence to a policy that prescribes a reasonable match between the construct and the procedures used to assess for exceptional manifestations of accompanying traits, behaviors or aptitudes would afford minority students more opportunities to legitimately demonstrate their exceptional abilities. As Hoge (1988) has observed, this match is often not there. More typically, formal definitions are presented that "incorporate assertions about superior levels of intellectual potential, academic aptitudes, motivation level, creativity and so forth" (Hoge, p. 13) However, the operational identification process continues to consist of screening and selection based on teacher nominations and IQ tests performance (Davis & Rimm, 1989; Gallagher, 1985; Pendarvis, et al., 1990; Richert, 1987, 1991; Richert, et al., 1982). This narrow conceptualization of giftedness effectively precludes children who do not demonstrate the full extent of their exceptional potential. A noted exception is the program for mathematically precocious youth developed by Stanley (Stanley & Benbow, 1988) in which there is a direct correspondence between the formal definition of giftedness in mathematics and the measures used to evaluate gifted mathematical characteristics.

It has been argued that if there were agreement regarding the construct of giftedness and if attention were given to the full range of traits, behaviors, and aptitudes associated with that construct, minority students would fare better in selection processes for gifted programs (Bernal, 1980; Culross, 1989; Hoge, 1988). A variety of test and nontest measures would need to be considered and information from these various measures would have to be interpreted in ways that would reflect standards that accommodated students from diverse cultural, ethnic, economic, and environmental backgrounds.

In designing research on the identification of gifted potential in the various minority groups, the construct of giftedness must first be examined within the context of diverse cultures and economic levels so that talent potential not be defined and assessed only in a Euro-American context. The use of currently available measures and the construction of new, more appropriate measures for assessing the potential of minority students will depend on developing an understanding of giftedness that accommodates more than one standard for exceptional performance.

Recent years have witnessed the emergence of a number of different constructs or conceptions of giftedness that have implications for the identification process and program goals (Gagné, 1993; Gardner, 1983; Sternberg & Davidson, 1986; Tannenbaum, 1983). Which of these conceptions and the constructs on which they are based or that they represent hold most promise for incorporating the diverse behaviors and attributes of individuals from different cultural, economic, and social groups?

Since the giftedness construct is so critical in identifying talent potential, any improvement of the process depends on consensus being reached concerning a guiding construct. The significance of the giftedness construct in the identification process suggests that such conceptions be examined within the context of diverse cultures and socioeconomic levels in order to give meaning to the notion of "gifted potential" as not limited to the dominant Euro-American tradition.

However, such consensus is not readily attained as witnessed by the abundance of competing conceptions of giftedness. All of the conceptions do concur that giftedness involves much more than the traditional Euro-American view of high IQ scores. While it may not be possible to arrive at a universally accepted giftedness construct, it should be possible to derive common components of such constructs that speak to questions of diversity. The question that might be asked of each construct is: How does this construct respond to cultural and socioeconomic diversity and what are the implications for assessment?

The Referral Process

Research into effective methods for identifying gifted minority students must address issues related to the referral process and how it can be improved to better recognize diverse expressions of giftedness. The identification process typically begins with some method of nomination or referral (Davis & Rimm, 1989; Eby & Smutney, 1990; Newland, 1976; Tannenbaum, 1983). As noted earlier, the most widespread source for securing nominations or referrals is classroom teachers.

Historically, teacher nominations have been criticized as being too subjective and too personally judgmental, doing better at identifying well-behaved, good if not outstanding achievers, and missing potentially gifted students who are not from the mainstream. Teachers have been notoriously poor in referring youngsters from minority populations. Research can help explain why this is so. Does the low rate of referral stem from prejudice? Lack of knowledge? Misinformation? Or what?

More recent studies have revised these perceptions somewhat and indicate that when trained, teachers make better, more informed, and more accurate referrals (Cohen, 1988; Davis & Rimm, 1989; Denton & Postlethwaite, 1982; Eby & Smutney, 1990; Feldhusen & Baska, 1989; Gallagher, 1985; Hagen, 1980; Newland, 1976). The general conclusion is that teachers can provide more reliable referrals when they are instructed regarding traits to be observed and in how to interpret these traits. A number of other persons have added that this training must include an emphasis on recognizing and interpreting these traits in minority group children (Baca & Chinn, 1982; Bermudez & Rakow, 1990; Bernal, 1980; Frasier, 1987; Kitano & Kirby, 1986; Maker & Schiever, 1989; McCarty, et al., 1991; Tonemah, 1987; Wood & Achey, 1990).

The implication of needed research on the referral process is the challenge to educators to design and test ways: (a) of changing teacher attitudes, skills, and understandings so that they comprehend the nature of talent potential and its diverse manifestations; (b) of helping teachers understand the different ways such talent potential may be exhibited by students from different cultural, economic, and language groups; and (c) of sharpening teachers' referral skills. Such research could focus on what is involved in the creation of opportunities that would enable minority students to demonstrate their unusual capabilities in a climate where teachers will recognize talent potential in performance and product. In addition, research could provide insights into how parents and others in the community can enhance their capabilities in the referral process—i.e., what behaviors are significant and how are they manifested in the home and the community similarly and differently in diverse cultural and socioeconomic settings?

The Identification Process

In a critique of what they call "the traditional test-score-as-criterion process of identification," Renzulli and Delcourt (1986) described the benefits of having "procedures for examining traits that cannot easily be discerned through the use of traditional intelligence, achievement, and aptitude tests" (p. 21). They suggest that the largest gain would be the increase in the value of alternative criteria precisely because they do not correlate highly with intelligence. In addition, Renzulli (1988) urges that there be a shift in "emphasis from the absolute concept of 'being gifted' (or not gifted) to a concern with developing gifted behaviors in those youngsters who have the highest potential for benefiting from special educational services" (p. 61).

Performance-based designs for research on identification can inform the development of more effective methods of identifying gifted minority students. For example, Renzulli and Delcourt (1986) recommend designs that focus on "how one uses one's intelligence and other potentials in situations that require the display and development of gifted behaviors" (p. 23). Such designs could improve the process of examining gifted attributes of students as they occur in different cultural and social contexts and could provide an effective way to deal with the criticisms of the subjectivity of alternative criteria as diminishing their value (Pendarvis, et al., 1990). The behaviors sought in a performance-based identification design should, of course, be guided by the giftedness construct.

Research into methods of identifying minority gifted students must also explore the effective use of information from a variety of objective and subjective sources. Some researchers recommend that, especially when evaluating the gifted potential of minority students, data from many sources should be generated for each student, all of which should be considered and judged (Baldwin, 1984, 1985; Bernal, 1980; Davis & Rimm, 1989; Feldhusen & Baska, 1989; Frasier, 1987; Hagen, 1980; Kitano & Kirby, 1986; Martinson, 1974). It is not enough to propose multiple criteria and multiple sources of information

without studying the nature of these sources. Are some sources of data more useful and more productive with minority students than others? Which gifted behaviors can be validly assessed or noted in diverse settings by various observers? It has become a truism that identification processes, especially those aimed at assessing talent potential among minority students, involve data collection from multiple sources, but research is very much needed to determine what data are actually most fruitful in the search for abilities.

Moreover, if data are to be gathered from multiple sources, then better ways need to be found to combine information from these diverse sources to arrive at a valid programmatic and service decisions. There are criticisms of many of the methods currently advocated for combining data from multiple sources (Feldhusen & Baska, 1989; Feldhusen, VanTassel-Basks, & Seeley, 1989; Treffinger, 1991). Clearly, simple aggregation is inappropriate. Jenkins-Friedman (1982) observed that when schools go through elaborate procedures to collect data from multiple sources and then merely sum the scores from these disparate sources, they negate the purpose and the value of using multiple data.

Curricular and Instructional Decisions

It has long been accepted that the identification process should not simply label students, but that it should identify behaviors that need to be nurtured programmatically. Research must address issues related to how assessment information is used effectively to design program and curricula activities to address instructional needs.

Earlier, assessment was described as encompassing the entire process of referring, screening, diagnostic testing, program and instructional planning, and evaluation. Conceived this way, assessment involves designing activities to match student needs with program characteristics and vice versa (Clark, 1992; Davis & Rimm, 1989; Feldhusen & Baska, 1989; Eby & Smutney, 1990, Tannenbaum, 1983). As noted earlier, one criticism of some identification programs is that minority students are identified and selected on one set of criteria and then expected to perform in an educational setting that is based on an entirely different set of criteria (Richert, 1987, 1991; Richert, et al., 1982).

There is no consensus on whether program planners should consider unique or different perspectives for minority group students. Some writers argue that "the purposes of special programs for gifted students are the same regardless of the populations being considered" (Maker & Schiever, 1989, p. 297). Others, while arguing against stereotyping minority students, assert that cultural differences are significant and need to be considered. For example, Ronvik (1989) suggested that Anglo-American, middle class values should not be imposed upon minority students; nothing should be allowed in programs and curricula that interfered with emotional, social, or educational development. Larson (1989), on the other hand, urged that educators plan for individual student development rather than develop plans based on ethnicity.

Further research on developing effective programs and curricula based on the diagnosis and assessment of the characteristics and traits of gifted minority students is needed. The interactive relationship between identification and education—i.e., between and among assessment, curriculum, and instruction—is significant for all gifted programming and, is especially so for minority students. Since the purpose of gifted programs is to provide for the differentiated needs of gifted children in ways that maximize their potential, then the assessment process should provide insights into those ethnic and cultural differences that must be addressed. Should the goal of programs and curricula be to prepare gifted minority students to be performers within the context of specific cultural beliefs and values, as performers in the context of a larger society, or both?

Conclusion

This review of assessment issues related to the identification of talent potential among minority children has underscored the need to deal with the perceived and real problems of traditional identification methods in recognizing the capabilities of youngsters from cultural and socioeconomically diverse groups. Although gifted minority students have many of the same characteristics and traits that are ascribed to gifted students generally, clearly there are some attributes and behaviors that are embedded in different cultural and environmental contexts that influence the recognition and nurturing of giftedness. It is these cultural and socioeconomic differences and their manifestations in diverse contexts that must be better understood if giftedness among minority groups is to be better recognized and nurtured.

The review has looked at the explanations that have been advanced for the serious underrepresentation of minority students in programs for the gifted—including test bias, selective referrals, deficit-based paradigms, the absence of multiple criteria and multiple data sources, modified selection criteria—as the bases for devising strategies for better assessment and identification procedures. It has pointed out the long-standing debates that have occurred and continue. Clearly, there is no "magic bullet," no single new assessment procedure that will enhance efforts to identify the talent potential of minority students.

Various researchers and writers have offered a range of possible ways of increasing the effectiveness of procedures for recognizing giftedness in minority students, including: (a) developing new data matrices; (b) renorming or redesigning standardized tests; (c) creating more authentic evaluation procedures such as portfolios or performance assessment; (d) using objective and subjective data from multiple sources; (e) extending the range of persons involved in referral and improving their nomination skills, (f) relating instruction to identification—i.e., creating enriched learning opportunities through which students can demonstrate their abilities; (g) modifying traditional procedures by adjusting cutoff scores, analyzing subtest scores differently; and (h) developing culture-specific checklists and rating scales.

Most proposals seem to be fraught with some difficulty. For example, Hilliard (1991a, 1991b) has observed that while some methods of nondiscriminatory assessment may be politically acceptable, they may actually be useless in that the information provided is essentially invalid. Similarly, Bernal (1980) has argued that "doctoring" traditional measurement techniques by adding points stigmatizes minority students while, at the same time, failing to recognize the many gifted among them. Summing scores derived from different tests, scales, and checklists is statistically inappropriate (Davis & Rimm, 1989; Eby & Smutney, 1990; Feldhusen & Baska, 1989; Feldhusen, et al., 1981; Jenkins-Friedman, 1982; Pendarvis, et al., 1990).

The inequities and ineffectiveness of the assessment processes used to identify minority giftedness are best dealt with in a comprehensive fashion. Among the areas that research can profitably address are: (a) development of consensus on the construct of giftedness in diverse cultures and groups; (b) exploration of components of performance-based designs for assessing the aspects of giftedness that are related to cultural and socioeconomic differences; (c) examination of ways of extending the source of referrals and improving the accuracy of nominations; (d) study of the value and validity of data from a variety of sources so that "data from multiple sources" becomes more meaningful; (e) relating the assessment procedures to program and curricula design and vice versa; and (f) design enriched learning opportunities through which youngsters can actually demonstrate

their potential by their performance and products, making self-identification an integral part of the assessment process.

In agreement with Wiggin's (1989) observation that the continued persistence of an educational problem suggests that the problem has not been properly framed, this review of assessment issues affecting the identification of gifted minority students certainly suggests a need for reframing the problem. The current paradigms have not been sufficient to address the many factors that affect the identification of these students and a new paradigm is needed. But, as Treffinger (1991) has pointed out, a new paradigm cannot be easily defined as a "unidimensional treatment that can be applied with precision and careful control to a specific sample" (p. 447).

In designing research to grapple with the many problems involved, it must be recognized that the term "minority" encompasses many diverse groups with many differences within them. Significant differences are missed when the label is used only to designate the diverse cultural and socioeconomic populations that have not been included in the "majority" group that has traditionally dominated program efforts for the gifted in America. The promise of new paradigms that will include populations that have not been adequately identified and whose potential has not been sufficiently nurtured has important implications for individuals and for society. Students' potential for high-level performance can be identified and programs can be designed to enhance their future productivity at advanced levels of excellence. That is the challenge educators must deal with and new paradigms are needed to guide these efforts.

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